

Amendments to and Listing of the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application. Please cancel claims 1-30 and add new claim 31, as follows:

1-30. (Cancelled)

31. (New) A data storage medium on which data is to be recorded by modulating the data to generate a plurality of recording modulation codes and irradiating a pulse-like light beam to the data storage medium, so that a plurality of recording marks and spaces which have lengths corresponding to the plurality of recording modulation codes are formed on the data storage medium, the data storage medium comprising a disc information area,

wherein the disc information area includes a region on which at least one of an irradiation information of the light beam to form the recording marks and a constitution information of the recording mark is to be recorded,

at least two of the plurality of recording marks are formed by the light beam emitted according to a recording pulse train, the recording pulse train comprising: a first pulse which is disposed at a front and forms a leading edge of the recording mark, a last pulse which is disposed at a backend and forms a trailing edge of the recording mark, and a multi-pulse train which is disposed between the first pulse and the last pulse and forms a center of the recording mark,

the multi-pulse train having a pulse period longer than T which represents a reference period of the recording modulation code,

the plurality of recording marks have different lengths represented by T with each other,

a number of pulses in each of the recording pulse trains is increased by one as the recording mark is increased in length by $2T$, and

a shortest recording mark and a second shortest recording mark are constituted of a single pulse, respectively.